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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/764,797	01/26/2004	Zhiping Shan	1094-47	9767

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DILWORTH & BARRESE, LLP  
333 EARLE OVINGTON BLVD.  
SUITE 702  
UNIONDALE, NY 11553

EXAMINER
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WARTALOWICZ, PAUL A

ART UNIT	PAPER NUMBER
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1754

MAIL DATE	DELIVERY MODE
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05/29/2007

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

## Office Action Summary

Application No.

10/764,797

Applicant(s)

SHAN ET AL.

Examiner

Paul A. Wartalowicz

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 26 January 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-24 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-24 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date 5/19/05, 5/17/04.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_

## **DETAILED ACTION**

### ***Claim Rejections - 35 USC § 112***

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claim 21 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

The recitation in claim 21, line 2 "elevated pressure" renders the claim indefinite. It is unclear what the pressure is elevated with respect to.

Clarification and/or correction is required.

### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

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(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) and the Intellectual Property and High Technology Technical Amendments Act of 2002 do not apply when the reference is a U.S. patent resulting directly or indirectly from an international application filed before November 29, 2000. Therefore, the prior art date of the reference is determined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

Claims 1-5, 7, 9-13, 15-24 are rejected under 35 U.S.C. 102(b) as being anticipated by U.S. 2002/0074263.

U.S. 2002/0074263 teach a method for making a microporous zeolite embedded in a mesoporous support (paragraph 0003) comprising the zeolite is incorporated into the mesoporous support (paragraph 0015) and reacting alumina or aluminum isopropoxide (paragraph 0017 & 0021) with a glycol and triethanolamine (paragraph 0018 & 0022) wherein the inorganic precursor is decomposed (paragraph 0022) and aged at a temperature of 5-45°C to complete hydrolysis (paragraph 0023) and then heated in a sealed vessel at autogenous pressure (paragraph 0023 & 0024) and solvent extraction with ethanol (paragraph 0028) or calcination at a temperature of 300-1000°C for 2 to 40 hours (paragraph 0025) wherein the calcining temperature is ramped up (paragraph 0026), wherein calcination removes the templating agent (paragraph 0028) and wherein the templating agent is recovered for re-use (paragraph 0028).

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Claims 1-5, 7, 9-13, 16-24 are rejected under 35 U.S.C. 102(b) as being anticipated by either U.S. (6358486) or WO 00/15551.

U.S. 6358486 teach a method for making an inorganic oxide comprising adding the claimed zeolite to the complex, the claimed source of inorganic oxide is reacted with the claimed complexing agent at a complexation temperature, aging, drying, and decomposing the complex by the claimed calcination temperature (Entire Document).

Claims 1-5, 7, 9-13, 16-21 are rejected under 35 U.S.C. 102(b) as being anticipated by WO 00/15551.

WO 00/15551 teach a method for making an inorganic oxide comprising the claimed source of inorganic oxide is reacted with the claimed complexing agent at a complexation temperature, decomposing the complex by the claimed calcination temperature (Entire Document).

Claims 1-5, 7, 9-13, 16-21 are rejected under 35 U.S.C. 102(a,e) as being anticipated by any one of U.S. 6906208, U.S. 6814950, WO 2004/026473, and WO 2004/052537.

The applied reference has a common inventor with the instant application. Based upon the earlier effective U.S. filing date of the reference, it constitutes prior art

under 35 U.S.C. 102(e). This rejection under 35 U.S.C. 102(e) might be overcome either by a showing under 37 CFR 1.132 that any invention disclosed but not claimed in the reference was derived from the inventor of this application and is thus not the invention "by another," or by an appropriate showing under 37 CFR 1.131.

Any one of the references teach a method for making an inorganic oxide comprising the claimed source of inorganic oxide is reacted with the claimed complexing agent at a complexation temperature, decomposing the complex by the claimed calcination temperature (Entire Document).

Claims 1-5, 7, 9-13, 15-24 are rejected under 35 U.S.C. 102(a,e) as being anticipated by U.S. 7084087.

The applied reference has a common inventor with the instant application. Based upon the earlier effective U.S. filing date of the reference, it constitutes prior art under 35 U.S.C. 102(e). This rejection under 35 U.S.C. 102(e) might be overcome either by a showing under 37 CFR 1.132 that any invention disclosed but not claimed in the reference was derived from the inventor of this application and is thus not the invention "by another," or by an appropriate showing under 37 CFR 1.131.

U.S. 7084087 teach a method for making an inorganic oxide comprising adding the claimed zeolite to the complex, the claimed source of inorganic oxide is reacted with the claimed complexing agent at a complexation temperature, aging, drying, and decomposing the complex by the claimed hydrolysis and calcination temperature (Entire Document).

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Claims 1-3, 5, 7, 9-15, 18, 21, and 22 are rejected under 35 U.S.C. 102(b) as being anticipated by Laine et al. (U.S. 5418298).

Laine et al. teach a method of making porous articles (col. 3) comprising reacting alumina or silica (col. 4) with triethanolamine (col. 5) and a solvent selected from the group consisting of ethylene glycol, tetraethylene glycol, triethylene glycol, propylene glycol, tripropylene glycol, or polypropylene glycol (col. 6) at a temperature 100-250°C (col. 6) wherein the complex is subjected to hydrolysis with subsequent heating, calcination, and solvent extraction (col. 10), and providing a zeolite (col. 10).

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

Claims 6, 8, and 14 are rejected under 35 U.S.C. 103(a) as being unpatentable any one of U.S. 2002/0074263, U.S. 7084087, U.S. 6358486, U.S. 6906208, and U.S.

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6814950, WO 00/15551, WO 2004/026473, and WO 2004/052537 in view of Nakagawa (U.S. 5273736).

U.S. 2002/0074263, U.S. 7084087, U.S. 6358486, U.S. 6906208, and U.S. 6814950, WO 00/15551, WO 2004/026473, and WO 2004/052537 teach a method for making a microporous zeolite embedded in a mesoporous support as described above in claim 1.

U.S. 2002/0074263, U.S. 7084087, U.S. 6358486, U.S. 6906208, and U.S. 6814950, WO 00/15551, WO 2004/026473, and WO 2004/052537 fail to teach wherein the source of inorganic oxide is silica source as claimed and wherein the source of inorganic oxide is the claimed magnesium compound.

Nakagawa, however, teach a method for making large pore zeolites (col. 1) comprising reacting fumed silica, magnesium hydroxide with a templating agent at a temperature of 100-235°C (col. 5, 7, and 8).

Therefore, it would have been obvious to one of ordinary skill in the art at the time applicant's invention was made to provide reacting fumed silica and magnesium hydroxide with a templating agent at a temperature of 100-235°C (col. 5, 7, and 8) in U.S. 2002/0074263, U.S. 7084087, U.S. 6358486, U.S. 6906208, and U.S. 6814950, WO 00/15551, WO 2004/026473, and WO 2004/052537 because it is well-known in the art to do so as taught by Nakagawa.

Claims 15 and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over any one of U.S. 2002/0074263, U.S. 7084087, U.S. 6358486, U.S. 6906208, and

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U.S. 6814950, WO 00/15551 WO 2004/026473, and WO 2004/052537, in view of Kresge et al. (U.S. 5250277).

U.S. 2002/0074263, U.S. 7084087, U.S. 6358486, U.S. 6906208, and U.S. 6814950, WO 00/15551, WO 2004/026473, and WO 2004/052537 teach a method for making a microporous zeolite embedded in a mesoporous support as described above in claim 1.

U.S. 2002/0074263, U.S. 7084087, U.S. 6358486, U.S. 6906208, and U.S. 6814950, WO 00/15551, WO 2004/026473, and WO 2004/052537 teach that hydrolysis occurs and is completed and that calcination occurs at a temperature of 300-1000°C. This is believed to inherently teach the limitations of claims 15 and 16.

If U.S. 2002/0074263, U.S. 7084087, U.S. 6358486, U.S. 6906208, and U.S. 6814950, WO 00/15551, WO 2004/026473, and WO 2004/052537 fail to teach these limitations, Kresge et al., however, teach a method of making porous (col. 14) crystalline oxides (col. 1) comprising hydrolysis and/or calcination is used to produce porous precursor (pillars of an oxide, col. 11).

Therefore, it would have been obvious to one of ordinary skill in the art at the time applicant's invention was made to provide hydrolysis and/or calcination in U.S. 2002/0074263, U.S. 7084087, U.S. 6358486, U.S. 6906208, and U.S. 6814950, WO 00/15551, WO 2004/026473, and WO 2004/052537 in order to produce porous precursor (pillars of an oxide, col. 11) as taught by Kresge et al.

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Claims 4 and 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Laine et al. (U.S. 5418298) in view of Shan et al. (U.S. 2002/0074263).

Laine et al. teach a method of making a porous article as described above in claim 1.

Laine et al. fail to teach that the source of inorganic oxide comprises tetraethylorthosilicate and aluminum isopropoxide, silatrane, alumatrane and titanatrane.

Shan et al. teach a method for making a microporous zeolite embedded in a mesoporous support (paragraph 0003) comprising the zeolite is incorporated into the mesoporous support (paragraph 0015) and reacting alumina or aluminum isopropoxide (paragraph 0017 & 0021) with a glycol and triethanolamine (paragraph 0018 & 0022).

Therefore, it would have been obvious to one of ordinary skill in the art at the time applicant's invention was made to provide the source of inorganic oxide is aluminum isopropoxide (paragraph 0017 & 0021) in Laine et al. because it is well known in the art to do so in a substantially similar process (paragraph 0018 & 0022) as taught by Shan et al.

Additionally, Shan et al. teach that it is known to carry out solvent extraction with ethanol (paragraph 0028).

Therefore, it would have been obvious to one of ordinary skill in the art at the time applicant's invention was made to provide solvent extraction with ethanol (paragraph 0028) in Laine et al. because it is a well-known method of extraction in the art as taught by Shan et al.

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Claims 6 and 8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Laine et al. (U.S. 5418298) in view of Nakagawa (U.S. 5273736).

Laine et al. teach a method of making a porous article as described above in claim 1.

Laine et al. fail to teach wherein the source of inorganic oxide is silica source as claimed and wherein the source of inorganic oxide is the claimed magnesium compound.

Nakagawa, however, teach a method for making large pore zeolites (col. 1) comprising reacting fumed silica, magnesium hydroxide with a templating agent at a temperature of 100-235°C (col. 5, 7, and 8).

Therefore, it would have been obvious to one of ordinary skill in the art at the time applicant's invention was made to provide reacting fumed silica and magnesium hydroxide with a templating agent at a temperature of 100-235°C (col. 5, 7, and 8) in Laine et al. because it is well-known in the art to do so as taught by Nakagawa.

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**Conclusion**

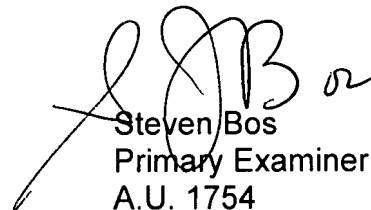
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Paul A. Wartalowicz whose telephone number is (571) 272-5957. The examiner can normally be reached on 8:30-6 M-Th and 8:30-5 on Alternate Fridays.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Stanley Silverman can be reached on (571) 272-1358. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



Paul Wartalowicz  
May 22, 2007



Steven Bos  
Primary Examiner  
A.U. 1754